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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,579	05/20/2004	Gerald C. DiPiazza	Tyco.005	6347
7590 Tyco Technology Resources Suite 140 4550 New Linden Hill Road Wilmington, DE 19808-2952			EXAMINER STEPHEN, EMEM O	
			ART UNIT 2617	PAPER NUMBER
			MAIL DATE 10/06/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/849,579

Applicant(s)

DIPIAZZA, GERALD C.

Examiner

EMEM STEPHEN

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 28 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1-22 is/are allowed.
6) ☒ Claim(s) 23-26 and 28 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 20 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 07/17/2008 have been fully considered but they are not persuasive.

With regards to claim 25, the Applicant admits that Dupray discloses dimensional information including an elevation component in a transmitted signal, and prioritizing the fulfillment of services requests. However, the Applicant concedes that Dupray fails to disclose "the signal is encoded with a predetermined code based on the elevation from which the signal was transmitted and services priorities." The Examiner respectfully disagrees with the above arguments for the reason that as admitted by the Applicant, if a transmitted signal includes dimensional information including an elevation component then the signal is encoded with the dimensional information. Furthermore, Dupray discloses location system that uses locating technologies including pattern recognition, and "CART" technique (see abstract, pars.2, and 464). The encyclopedia definition of Pattern recognition is "the act of taking in raw data and taking an action based on the category of the data. Pattern recognition aims to classify data (patterns) based on either a priori knowledge or on statistical information extracted from the patterns" Clearly, packet data is encoded with information as is also well known in the art. Furthermore, taking an action based on the category of the data as in the above definition, indicates priority of a service request, which also disclosed in Dupray's disclosure of "CART" (acronym for Classification and Regression Trees) technique (par. 620). Therefore, the applied reference discloses the above Applicant's argued limitation.

With regards to claim 23, the Applicant's argument that the applied reference fails to disclose an outward and inward facing array is not persuasive for the reason that the formation of beam arrays are well known in the art and are therefore, not novel. Furthermore, Yarkosky discloses using an outward facing array of the communication module (downlink signal 202 received by relay 200 is outward facing array) and an inward facing array (relay 200 transmits signal 204 inward to mobile port 206-210) of the communication module (see figs. 5, and 7-8).

Therefore, Yarkosky discloses the argued limitations, thus rejections are maintained and repeated below.

Allowable Subject Matter

2. Claims 1, 3-22 are allowed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Publication No. 2004056457 A to Ami et al. in view of Yarkosky.

Regarding claim 23, Ami discloses an apparatus comprising a communication module (millimeter wave transmitter 22 and receiver 23A-C) mountable to the side of a building and the communication module is configured to: receive a radio signal (see fig. 3, and par. 21) from another communication module located on the side of the building, the radio signal originating from an elevation different than the communication module; (see figure 1, and pars. 21, signals originating from antenna 31-33) and propagated at least one substantially downward along an outside surface of the building (signal transmitted from millimeter wave transmitter 22 to receiver 23 are transmitted substantially downward along an outside surface of the building); and transmit the radio signal into the building (see fig. 1, receiver 23 transmit signal into building to be received by receiver set 42-43), using an outward facing array of the communication module and an inward facing array of the communication module (array formations are well known in the art).

However, Ami fails to specifically disclose transmit the radio signal substantially upward along an outside of the building, using an outward facing array of the communication module and an inward facing array of the communication module.

Yarkosky discloses transmit the radio signal substantially upward along an outside of the building (see figures 1, 5, and col. 3 lines 55-58, uplink signal 22 is transmitted substantially downward along an outside of the building), using an outward facing array of the communication module (downlink signal 202 received by relay 200 is outward facing array) and an inward facing array (relay 200 transmits signal 204 inward to mobile port 206-210) of the communication module (see figs. 5, and 7-8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Ami, and have the radio signal such that the radio waves communicating the radio signal propagate at least one of substantially upward along an outside of the building as disclosed by Yarkosky for the purpose of transmitting it through to the communication modules.

6. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ami in view of Yarkosky, and further in view of Takatori.

Regarding claim 24, the combination of Ami and Yarkosky discloses the apparatus and method of claim 23, wherein the radio signal carries at least one of an up-converted mobile communication signal, an up-converted and a down-converted legacy wireless communication signal (Yarkosky col. 6 lines 42-48, down convert and up convert downlink signal).

However, the combination fails to disclose a millimeter wave radio signal. Takatori discloses a millimeter wave radio signal (col. 2 lines 54-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination, and have a millimeter wave radio signal as taught by Takatori for the purpose of increasing transfer speed of wireless communication (col. 2 lines 1-14).

7. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Publication No. 2004/0176027 A1 to O'Neill in view of U S Pub. 2004/0198386 A1 to Dupray.

Regarding claim 25, O'Neill discloses a method comprising: receiving a radio signal at a communication module, wherein the communication module is mounted to the side of a building (see figure 1, and par. 45, repeater system 20 located near the window receives signals from base station), wherein the radio signal originated from an elevation different than the communication module; and transmitting the radio signal into the building (see figure 1, and pars. 45-47, signals that are received from base station by repeater system 20 are transmitted to subscriber unit inside the building).

However, O'Neill fails to disclose the signal is encoded with a predetermined code based on the elevation from which the signal was transmitted and services priorities.

Dupray discloses the signal encoded with a predetermined code (par. 464, 512, 519, and 541) based on the elevation (pars. 30, 92, 236, and 349) from which the signal was transmitted and services priorities (pars. 38, 620, 652, and 672).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of O'Neill, and have the signal encoded with a predetermined code based on the elevation from which the signal was transmitted and services priorities as disclosed by Dupray for the purpose of using transmitted signal in determining the location of a person in the building.

8. **Claims 26, and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neill in view of Dupray, and further in view of Yarkosky, and further in view of Takatori.

Regarding claims 26, and 28, the combination of O'Neill and Dupray discloses the apparatus and method of claim 25, wherein the signal includes an indication of a floor of the building from which the signal was transmitted (Dupray, pars. 30, 92, 236, and 349), however, the combination fails to disclose wherein the radio signal carries at least one of an up-converted mobile communication signal, an up-converted and a down-converted legacy wireless communication signal.

In a similar endeavor, Yarkosky discloses wherein the radio signal carries at least one of an up-converted mobile communication signal, an up-converted and a down-converted legacy wireless communication signal (col. 6 lines 42-48, down convert and up convert downlink signal).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination, and have the radio signal carries at least one of an up-converted mobile communication signal, an up-converted and a

down-converted legacy wireless communication signal as taught by Yarkosky for the purpose of transmission through a building.

However, O'Neil, Dupray and Yarkosky fail to disclose a millimeter wave radio signal.

Takatori discloses a millimeter wave radio signal (col. 2 lines 54-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination, and have a millimeter wave radio signal as taught by Takatori for the purpose of increasing transfer speed of wireless communication.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMEM STEPHEN whose telephone number is 571 272 8129. The examiner can normally be reached on 8-5 Mon-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571 272 7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ES

09/26/2008

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617